

Appl. No. 10/701,845
Amendment dated August 30, 2004
Response to Office Action of May 28, 2004
Page 6

REMARKS

This application has been carefully reviewed in light of the Office Action of May 28, 2004. By way of this amendment, claims 1-4 have been amended. Minor changes have been made to the specification. Applicant requests further review and reconsideration in light of the following remarks.

Claims 1-4 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite. In response thereto, Applicant has amended claims 1-4.

Specifically, claim 1 has been rewritten to delete the phrase "general use" and to recite a culture medium suitable for supporting the growth of *Rhizobium Japonicum* bacteria. The culture medium is broadly recited in a functional manner, as there are many known compositions which serve this purpose. Furthermore, an example of a suitable culture medium composition is clearly recited in the specification in paragraph [0015].

Claims 2 and 4 have been rewritten to clarify that the 5 to 20% peat is by weight. The specification has been rewritten consistent with this change.

Claim 1 has been rewritten to clarify that lactose saccharide is an included element, which is consistent with claim 3.

In light of these amendments, it is submitted that the claims are definite and the section 112 rejections should be withdrawn.

Claims 1 and 3 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,168,796 (Scott et al.), Kuykendall et al., and Bergey's Manual, in view of U.S. Patent 5,750,402 (Guri et al.) and U.S. Patent 4,755,468 (Jung et al.) This rejection is respectfully traversed in light of the present amendment.

The base references teach culture mediums and processes for growing *R. Japonicum* bacteria, as well as various carbohydrates useful as nutrients. Guri et al. and Jung et al. teach and the use of potassium sorbate as a growth inhibitor in a growth medium. The examiner has stated that it would have been obvious to modify the growth medium of Scott or Kuykendall to include potassium sorbate.

Appl. No. 10/701,845
Amendment dated August 30, 2004
Response to Office Action of May 28, 2004
Page 7

However, even if this is true, the prior art fails to teach the specific method steps of the present invention. Claim 1 recites the sequential steps of: 1) sterilizing the culture medium, 2) adding the *R. Japonicum* bacteria and allowing it to multiply, and 3) subsequently adding the solution comprising powdered maltose saccharide, liquid maltose saccharide, and potassium sorbate. In other words, the solution is only added once the *Rhizobium* is multiplied in the culture medium and cooled.

The cited references all teach the addition of sugars and/or fungicides as part of the culture media, to multiply the *Rhizobium*. In contrast, the present invention adds the solution of maltose saccharide, lactose saccharide and potassium sorbate once the culture medium is finished and the *Rhizobium* has been multiplied. The purpose of addition at this point is not to multiply the *R. Japonicum*, but to protect the *Rhizobium* membrane. Although Scott et al. mentions generally the addition of mono- or di-saccharides to possibly protect grown *R. Japonicum*, this is done after the washing process during conversion of *R. Japonicum* to a dormant state, whereas in the present invention, the *R. Japonicum* is protected and stabilized in the live state. Furthermore, the present claims recite a specific combination of carbohydrates which have been found by Applicant not to degrade the *R. Japonicum*.

The prior art methods preserve the *R. Japonicum* for about fifteen days at ambient temperature, or about thirty days at cold temperatures. The present method prolongs the *Rhizobium*'s life to around eighteen months at ambient temperatures, as noted in the specification at paragraph [0020]. This is clearly an unexpected result.

Accordingly, it is submitted that the combination of references fails to teach every element of claims 1 or 3 and the rejection should be withdrawn.

Claims 1-4 have been rejected under 35 U.S.C. 103(a) as being unpatentable over by U.S. Patent No. 3,168,796 (Scott et al.), Kuykendall et al., and Bergey's Manual, in view of U.S. Patent 5,750,402 (Guri et al.) and U.S. Patent 4,755,468 (Jung et al.), and further

Appl. No. 10/701,845
Amendment dated August 30, 2004
Response to Office Action of May 28, 2004
Page 8

in view of U.S. Patent 5,695,541 (Kosanke et al.) or U.S. Patent 5,586,411 (Gleddie et al.)
This rejection is respectfully traversed in light of the present amendment.

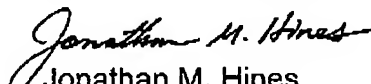
The Scott et al., Kuykendall et al., and Bergey's Manual, Guri et al. and Jung et al. reference contain the teachings noted above. The Examiner has stated that it would have been obvious to use presterilized peat in a Rhizobium-containing growth medium, as taught by Kosanke et al. or Gleddie et al. However, even if this is true, both of these references teach the addition of peat to an already-prepared culture medium. Neither reference teaches the particular step of adding the presterilized peat during the preparation of the culture medium, as recited in claims 2 and 4. This sequence of peat addition has the unexpected result of increasing the nodulation as compared to adding the peat to the already-prepared culture medium, as noted on the specification and shown particularly in Table III.

Accordingly, it is submitted that the combination of references fails to teach every element of claims 1-4 and the rejection should be withdrawn.

Applicant notes with appreciation that some of the previous section 112 rejections have been withdrawn in response to the telephone interview of May 21, 2004 between Applicant's attorney Jonathan Hines and Examiner Kosson. In that interview Applicant's attorney pointed out that a preliminary amendment had been filed and had not been considered in the original Office Action mailed on May 19, 2004.

In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration of the objections and rejections is requested. Allowance of claims 1-4 at an early date is solicited.

Respectfully submitted,


Jonathan M. Hines
Reg. No. 44,764

Appl. No. 10/701,845
Amendment dated August 30, 2004
Response to Office Action of May 28, 2004
Page 9

Jonathan M. Hines
ADAMS EVANS, P.A.
2180 Two Wachovia Center
Charlotte, NC 28282
Tel: (704) 375-9249
Fax: (704) 375-0729
Email: jmh@adamspat.com
Our File No. 3143/1